

ENERGY SAVING LIGHTS

Mooui fixtures developed before 2008 have been specifically designed for use with incandescent light sources. Due to the new European regulations these will not be available in the European Union in the near future. The EU's objective is to save energy and help the market push more efficient CFL & LED light bulbs. With this information sheet we want to help Mooui customers adapting their lamp to meet these new circumstances.

ENERGY SAVING BULBS

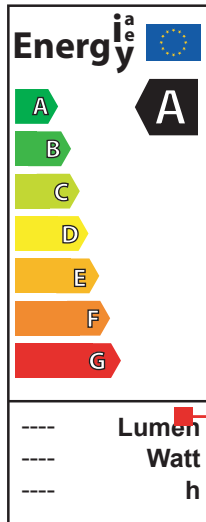
Most common Energy saving bulbs in the market are CFL type lamps, which is short for Compact Fluorescent Lightbulb. Basically CFL technology is similar to TL type lamps, but smaller. Mooui fixtures can be used with each available self-ballasted CFL for Edison type lampholders (E12, E14, E26 or E27) and below the maximum power rating of the fixture. Most important difference in use between incandescent and CFL, is that CFL is up to 5x more efficient which means that out of the absorbed power 5x more energy is being converted into the actual output of light.

When purchasing Energy saving replacements please make sure the light temperature (the "colour" of light expressed in degrees Kelvin, or K) is around 2700K.

To replace your existing lightbulb you can use the following conversion to find the correct replacing wattage;

INCANDESCENT	CFL
15W	3W
25W	5W
40W	8W
60W	12W
75W	15W
100W	20W

There is a big difference between older and newer CFL and LED bulbs, and between low and high quality types. We advise to purchase bulbs from well known brands and specialized retailers. Make sure you purchase a similar type of bulb (globe, candle, etcetera).



This label can be found on the packaging of each energy saving light bulb.

The value in Lumen indicates the light output. On the packaging you should also find the light temperature expressed in K (Kelvin).

To be assured that the lightbulb has enough light output please check the efficiency of the bulb expressed in lm/W (lumen per watt) which should be around 50lm/W. Generally speaking the following can be said on efficiency for different light sources;

TYPE OF LAMP	EFFICIENCY
Incandescent	10-12 lm/W
Halogen	25-40 lm/W
CFL	30-50 lm/W
LED retrofit	30-70 lm/W

RETROFIT GUIDELINE

When purchasing LED or CFL retrofit globes please make sure you have checked efficiency (lm/W), or at least total light output (Lumen) and colour temperature to find out if it can match your previous incandescent light source. Currently (2009) LED retrofit only replaces Incandescent up to 60W.

To roughly convert the power of the Energy saving bulb, you should divide the given amount of Lumen (refer to the packaging of the bulb) by 10. This gives you the wattage of a comparable Incandescent globe with similar output.

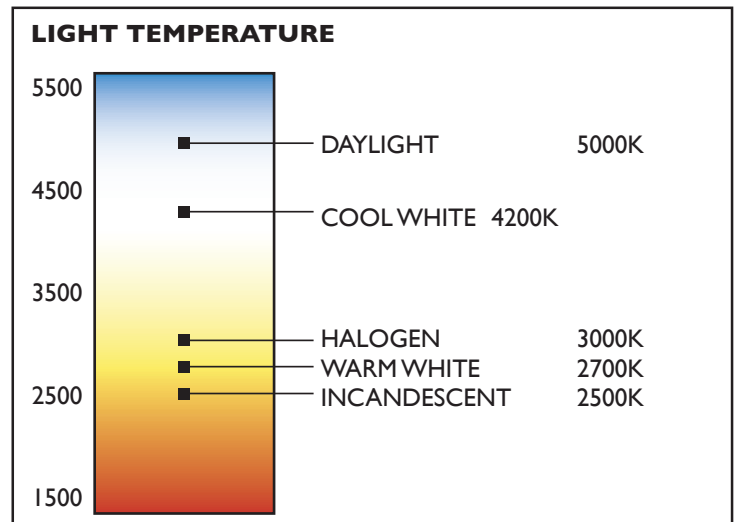
For example;

a retrofit LED bulb of 3W with a total output of 90 Lumen can be translated to its incandescent equivalent by; $90/10=9$; In this example the LED bulb could replace a 9W incandescent bulb.

If efficiency is given in Lumen per WATT, you can multiply the rated wattage (W) x the lm/W (value) to know the total Lumen. You can then divide the total Lumen by 10 to find the equivalent wattage for an incandescent bulb.

For example;

a retrofit LED bulb of 3W with an efficiency of 48lm/W can be translated to its incandescent equivalent by; $3 \times 48 = 144$ lm; $144/10 = 14.4$ W. In this example the LED bulb could replace a 15W incandescent bulb



PHASING OUT OF INCANDESCENT LIGHT BULBS IN THE EU

SEPTEMBER 1, 2009	ALL MATT INCANDESCENT + CLEAR 100W (ALL FROM 80W>)
SEPTEMBER 1, 2010	CLEAR 75W (ALL FROM 65W>)
SEPTEMBER 1, 2011	CLEAR 60W (ALL FROM 45W>)
SEPTEMBER 1, 2012	CLEAR 40W, 25W, 15W (ALL FROM 7W >)
SEPTEMBER 1, 2016	ALL INCANDESCENT > ENERGY CLASS C*

* EXCEPT FOR SPECIAL APPLICATION INCANDESCENT SUCH AS OVEN LAMPS, REFRIGERATOR LAMPS, INFRARED AND TRAFFIC LIGHTS

